

Effects of Nickel-Coated Carbon Fiber and MWCNT on the Electrical, Morphological and Mechanical Properties of Polyamide 6 and Poly(acrylonitrile-butadiene-styrene) Composites

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In this study, the effects of hybrid fillers such as nickel-coated carbon fiber (NCCF) and multi-walled carbon nanotube (MWCNT) on the electrical conductivity and morphology of polyamide 6 (PA6) and Poly(acrylonitrile-butadiene-styrene) (ABS) blends were investigated. Recently, the electromagnetic waves generated from electric products cause the errors displayed in the parts used in electronic device. To reduce these errors, researches and developments of polymer materials with electromagnetic waves shielding are actively studied. In this study, the experiment was proceeded to develop polymer materials have better electromagnetic interference shielding effectiveness (EMI SE). Hybrid fillers such as NCCF as a main filler and MWCNT as the second filler were used in the PA6/ABS/NCCF/MWCNT composites. In this experiment, the morphology, electrical conductivity, EMI SE and mechanical properties of PA6/ABS/hybrid conductive filler composites were investigated.